REMARKS

A. Background

Claims 1-12 were pending in the application at the time of the Office Action. Claims 1-12 were rejected as being obvious over cited art. By this response Applicant has amended claims 1, 3, 6-9 and 11; cancelled claim 2 without prejudice and added new claims 13-22. Applicant submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested. As such, claims 1 and 3-22 are presented for the Examiner's consideration in light of the following remarks.

B. Interview

Applicant thanks the Examiner for the telephonic interview conducted on December 29, 2008. The following remarks set forth the substance of what was discussed during that interview.

C. Obviousness rejections

Pages 2-4 of the Office Action rejected claims 1 and 6 under 35 USC § 103(a) over U.S. Patent No. 4,249,463 to Hornby in view of U.S. Publication No. 2004/0184950 to McVey et al. Pages 4-8 of the Office Action rejected claims 2-5 and 7-12 under 35 USC § 103(a) over the combination of the *Hornby* and *McVey* references in further view of various other references.

As discussed below, Applicant respectfully traverses these rejections at least because it would not be obvious to try and insert the *McVey* system into the *Hornby* system as asserted in the Office Action and even if the *Hornby* system were combined with the *McVey* system, the combination would not include each claimed feature. Applicant further traverses these rejections at least because the Office Action's interpretation of the term "filter" is inconsistent with the interpretation that one of ordinary skill would reach and thus is not a reasonable interpretation.

1. Overview of cited references

In further detail, the *Hornby* reference relates to small workstations for handling potentially dangerous materials, such as biological substances and radiopharmaceuticals.[1] The *Hornby* reference explains that prior workstations had an enclosure with a perforated working surface that a person manually accessed via an access aperture.[2]

The *Hornby* reference also notes that these prior workstations included a dual-filter design. In particular, the *Hornby* reference explains that such workstations included a first enclosure filter that provided clean air flow into enclosure and a second outlet filter through which air flow passed before being discharged into the atmosphere.[3] The *Hornby* reference disparaged such dual-filter workstations as being "very expensive."[4]

Finding these dual-filter workstations very expensive, the *Hornby* reference proposes its alternative workstation—emphasizing its "simple" design that "uses only one filter" for both its enclosure and its outlet.[5]

In particular, the *Hornby* reference workstation 10 includes an enclosure 11 having a perforated working surface 12, a fan 16 that draws air from the enclosure 11 via the perforated working surface 12, through a duct 18, and eventually directs the air back to the enclosure via a filter 15:[6]

[1] *See* U.S. Patent No. 4,249,463, at 1:5-9.
[2] *See* U.S. Patent No. 4,249,463, at 1:10-13.
[3] *See* U.S. Patent No. 4,249,463, at 1:10-25.
[4] *See* U.S. Patent No. 4,249,463, at 1:25-29.
[5] *See* U.S. Patent No. 4,249,463, at 1:53-56 ("It will be appreciated that this construction of workstation uses only one filter, but still ensures that there is inward flow at the access aperture and that the air expelled into the atmosphere is clean."); *id.* at 1:30-33 ("An object of the invention is to provide an improved workstation ... which is simple in construction.").
[6] *See* U.S. Patent No. 4,249,463, at 1:39-41 (discussing "a fan for drawing air from the enclosure and directing it back to the enclosure via a filter").

U.S. Patent No. 4,249,463
(Figure 1)

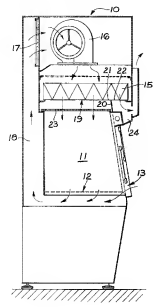
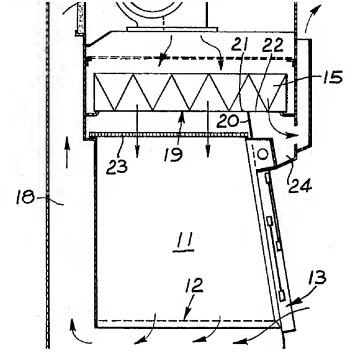


Fig. 1

U.S. Patent No. 4,249,463
(Enlarged Portion of Figure 1)



As shown above, a portion of the fan's air flow through the filter 15 (about 10% to 25%) is diverted to an outlet formed by the baffle 20 and then passed to the atmosphere,[7] while the remainder passes into the enclosure 11 via an element 23 (apparently a grill),[8] out of the enclosure 11 via its perforated working surface 12, into the duct 18, and eventually back to the fan 16. Diverting a portion of the airflow through the filter 15 helps maintain lower pressure in the enclosure 11, which draws air into the enclosure via the access opening 13 and thus contains the potentially dangerous material within the enclosure 11.[9]

As shown below in Figure 2, a second embodiment of the *Hornby* single-filter workstation adds a "rapid flushing" feature for radioactive spills. This embodiment includes a fan assembly 32 that, when triggered by a sensor 34, "draw[s] a substantial part (say 80% to

[7] *See* U.S. Patent No. 4,249,463, at 2:15-26; *id.* at 1:41-51 (discussing "an outlet being provided down stream of the filter, so as to cause a lowering of pressure inside the enclosure sufficient to cause an inflow of ambient air via the access aperture.").
[8] The *Hornby* reference's foreign priority document calls element 23 a "grill." *See* GB1593597A, at 2.
[9] *See* U.S. Patent No. 4,249,463, at 2:22-26; *id.* at 1:41-51 (discussing "an outlet being provided down stream of the filter, so as to cause a lowering of pressure inside the enclosure sufficient to cause an inflow of ambient air via the access aperture.").

90%) of the output of the fan" via the outlet formed by the baffle 20 and then into the atmosphere:[10]

U.S. Patent No. 4,249,463
(Figure 2)

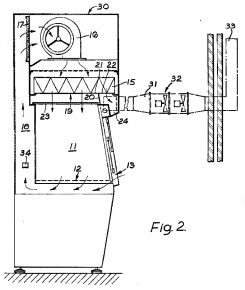
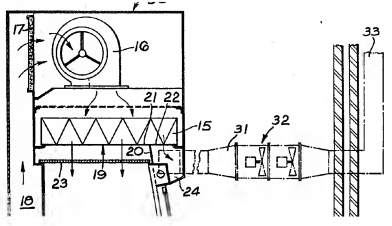


Fig. 2.

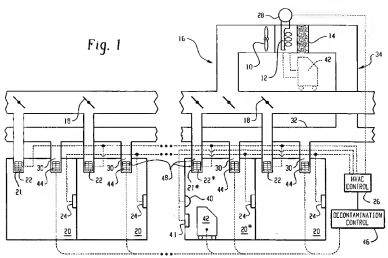
U.S. Patent No. 4,249,463
(Enlarged Portion of Figure 2)



Thus, during the rapid flushing, the 10% to 20% portion of airflow through the filter 15 that is not diverted by the baffle 20 will flow into the enclosure 11 via its grill 23, out of the enclosure 11 via its perforated working surface 12, into the duct 18, and then eventually back to the fan 16.

The *McVey* reference discloses a building decontamination system that includes a large hydrogen peroxide vapor generator 42. As shown below, the *McVey* hydrogen peroxide vapor generator 42 is so large that it needs wheels to be moved into rooms/offices 20:[11]

[10] *See* U.S. Patent No. 4,249,463, at 2:27-41.
[11] *See* U.S. Publication No. 2004/0184950 ¶ [0023].



The *McVey* reference also teaches that this large generator 42 need not be moved into a room/office 20, but can merely be externally connected to the room/office 20.[12]

2. It would not be obvious to insert Generator 42 of *McVey* into workstation 10 of *Hornby*.

Regarding the rejection of claims 1 and 6, pages 2-4 of the Office Action assert that it would be obvious to one of ordinary skill in the art to insert the large generator 42 of *McVey* into the enclosure 11 of the *Hornby* workstation 10 to obtain the claimed invention. Applicant disagrees. The *McVey* generator 42 is a large system that is designed to be wheeled into a room within a building for sterilizing the entire room. Generator 42 of *McVey* is represented as being as large as (if not larger than) workstation 10 of *Hornby*. As such, it would not be obvious to one skilled in the art to insert or even try to insert generator 42 of *McVey* into workstation 10 of *Hornby* because generator 42 is not designed or intended to be inserted within a workstation and because generator 42 is so large that it would be impossible to fit generator 42 within workstation 10.

3. Even if one of ordinary skill would have selected the large generator 42 of *McVey* to sanitize the *Hornby* small workstation 10, the combination would not include each claimed feature.

Assuming *arguendo* that one of ordinary skill would have selected large generator 42 of *McVey* to sanitize the *Hornby* workstation 10, one of ordinary skill would have, at most, merely externally connected the large generator 42 to the workstation 10, similar to the *McVey* reference

[12] The *McVey* reference states that "generator 42 is wheeled into or connected with the contaminated room[.]" *Id.* (emphasis added).

express teaching that its large generator 42 may be externally connected to a room/office 20.[13] This combination, however, would not produce "a first apparatus disposed within the main chamber for generating and delivering a sterilant vapour from a supply held within the main chamber to be distributed throughout the main chamber to sterilise the surfaces of the main chamber," as recited in Claim 1.

4. The Office Action's interpretation of the term "filter" is inconsistent with what one of ordinary skill would reach and thus not a reasonable interpretation.

MPEP § 2111 states that claim terms "must be 'given their broadest reasonable interpretation consistent with the specification.'"[14] In particular, MPEP § 2111 states, "The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach."[15]

Applicant's Amendment A argued that the *Hornby* reference's filter 15 could not be the "filter separating the plenum chamber from the main chamber" as recited in claim 1.[16] In response, the Office Action does not refute this argument and, instead, apparently asserts that the *Hornby* reference's grill 23 is the claimed "filter separating the plenum chamber from the main chamber":

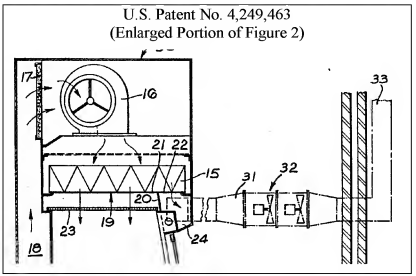
> It appears as though the Applicant may have misinterpreted the plenum chamber in the reference of Hornby. ***The plenum chamber constitutes the area from the top of the enclosure (as shown at numeral 10 in Figure 1) to the top portion of screen (23)***, wherein the screen is a filter as broadly defined. ***In this respect, the screen (23) separates the main chamber (11) from the plenum chamber***, and a means is provided for drawing gas from the enclosure via an outlet (referenced as a smaller area 22) from the plenum chamber.[17]

Applicant respectfully submits that it is not reasonable to believe that one of ordinary skill would consider the grill 23 of the *Hornby* reference to be "a filter separating the plenum chamber from the main chamber," as recited in claim 1. For example, the author of the *Hornby* reference did not consider the grill 23 to be any type of filter. The *Hornby* reference emphasizes

[13] The *McVey* reference states that "generator 42 is wheeled into or connected with the contaminated room[.]" *Id.* (emphasis added).
[14] *See* MPEP § 2111 at 2100-37 (8th ed. rev. 7 2008) (emphasis added).
[15] *See* MPEP § 2111 at 2100-38 (8th ed. rev. 7 2008) (emphasis added).
[16] *See* Amendment "A" and Response to Office Action, at 7-8 (April 24, 2008).
[17] *See* Office Action, at 10 (August 4, 2008).

that its "simple" design "uses only one filter" for both its enclosure 11 and its outlet.[18] Because the *Hornby* reference teaches that its filter 15 is used for both its enclosure 11 and its outlet, the author of the *Hornby* reference clearly did not consider the grill 23—which is located between the fan 16 and the interior of the enclosure 11—to be a filter:

U.S. Patent No. 4,249,463
(Enlarged Portion of Figure 2)



If the author of the *Hornby* reference did not consider the grill 23 to be a filter, it is unreasonable to think one of ordinary skill would consider the grill 23 to be a filter. Accordingly, the Office Action's interpretation of the term "filter" does not comply with MPEP § 2111 mandate that "[t]he broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach." As such, *Hornby* does not disclose or suggest a "filter separating the plenum chamber from the main chamber," as recited in claim 1.

5. Amended claim 1 is allowable under the Office Action's interpretation of the *Hornby* reference.

Despite the traversals above, Applicant has amended claim 1 to recite, among other things, "wherein the means for drawing gas from the enclosure comprises a fan located in a conduit connected to the outlet to create a flow of sterilant vapour from the main chamber through the filter to decontaminate the filter and then through the plenum chamber to decontaminate the plenum chamber before then exiting the outlet; and wherein the conduit has means for rendering sterilant flowing through the conduit ineffective to avoid release of sterilant

[18] *See* U.S. Patent No. 4,249,463, at 1:53-56 ("It will be appreciated that this construction of workstation uses only one filter, but still ensures that there is inward flow at the access aperture and that the air expelled into the atmosphere is clean."); *id.* at 1:30-33 ("An object of the invention is to provide an improved workstation ... which is simple in construction.").

to atmosphere." Thus, claim 1 recites **a flow of sterilant vapour from the main chamber through the filter to decontaminate the filter and then through the plenum chamber to decontaminate the plenum chamber before then exiting the outlet**.

In contrast, the *Hornby* reference (according to the Office Action's interpretation) discloses airflow in the opposite direction. As noted above, Applicant's Amendment A argued that the *Hornby* reference filter 15 could not be the "filter separating the plenum chamber from the main chamber" as recited in claim 1.[19] In response, the Office Action apparently asserts that the *Hornby* reference's grill 23 is the claimed "filter separating the plenum chamber from the main chamber":

> It appears as though the Applicant may have misinterpreted the plenum chamber in the reference of Hornby. ***The plenum chamber constitutes the area from the top of the enclosure (as shown at numeral 10 in Figure 1) to the top portion of screen (23)***, wherein the screen is a filter as broadly defined. ***In this respect, the screen (23) separates the main chamber (11) from the plenum chamber***, and a means is provided for drawing gas from the enclosure via an outlet (referenced as a smaller area 22) from the plenum chamber.[20]

Thus, according to the Office Action, the element 11 shown below corresponds to the claimed "main chamber," the grill 23 corresponds to the claimed "filter," and the space above grill 23 corresponds to the claimed "plenum chamber":

[19] *See* Amendment "A" and Response to Office Action, at 7-8 (April 24, 2008).
[20] *See* Office Action, at 10 (August 4, 2008).

U.S. Patent No. 4,249,463
(Figure 1)

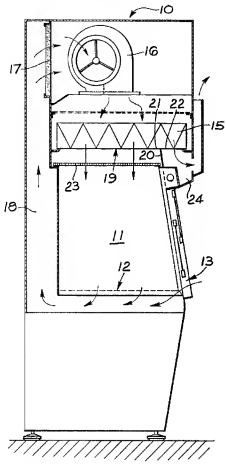


Fig. 1.

U.S. Patent No. 4,249,463
(Figure 2)

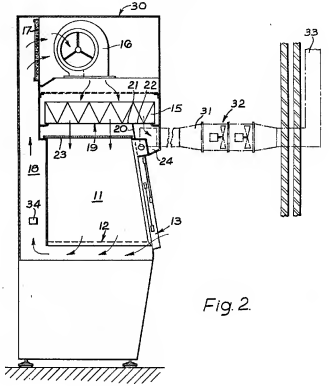


Fig. 2.

Assuming *arguendo* the above interpretation of the Office Action and assuming *arguendo* that one of ordinary skill would have somehow been able to place the *McVey* reference generator 42 inside the *Hornby* system enclosure 11, *Hornby* discloses that the air flow travels from the area above grill 23, down through grill 23, into enclosure 11 and then out of enclosure 11 through duct 18. The air flow does not travel from enclosure 11 up through grill 23. As such, even assuming the foregoing, *Hornby* does not disclose or suggest "a flow of sterilant vapour from the main chamber through the filter to decontaminate the filter and then through the plenum chamber to decontaminate the plenum chamber," as recited in claim 1

Furthermore, it would not have been obvious to modify/reverse the airflow of the *Hornby* system. In particular, if the *Hornby* system were modified such that air flowed from the

enclosure 11, through the grill 23, through the filter 15 and out the outlet, the hydrogen peroxide vapor from the generator 42 placed in the enclosure 11 would fail to reach large portions of the duct 18, thus failing to adequately sterilize the *Hornby* system and allowing the harmful biological materials remaining in the duct 18 to eventually re-infect the entire system.

Applicant also notes that it would not be obvious to combine a hydrogen peroxide sterilant with the second embodiment of the *Hornby* reference workstation, shown in its Figure 1. The second embodiment is designed for radioactive materials, not biological materials. In particular, the additional features of the second embodiment (such as the fan assembly 32) are expressly used for a "rapid flushing" feature for radioactive materials. Moreover, the additional features of the second embodiment could not effectively work with biological materials because the second embodiment controls the fan assembly 32 with a radioactivity sensor 34. The Office Action provides no rationale basis as to why one of ordinary skill would use a hydrogen peroxide sterilant in combination with the second embodiment of the *Hornby* reference workstation.

Applicant further submits that it would not be obvious to modify the second embodiment of the *Hornby* system to include "wherein the means for drawing gas from the enclosure comprises a fan located in a conduit connected to the outlet to create a flow of sterilant vapour from the main chamber through the filter to decontaminate the filter and then through the plenum chamber to decontaminate the plenum chamber before then exiting the outlet; and wherein the conduit has means for rendering sterilant flowing through the conduit ineffective to avoid release of sterilant to atmosphere," as claimed in claim 1. For instance, Applicant submits that the high-speed flow of the *Hornby* system fan assembly 32 which is use for "rapid flushing" would be incompatible with systems that need sufficient time to break down sterilant vapour, such as systems the Office Action alleges are shown in U.S. Patent No. 5,906,794 by Childers.

Accordingly, Applicant submits that claim 1 is allowable over the cited references and that the claims depending from claim 1 (namely claims 3-12) are allowable for at least the same reasons as claim 1.

Moreover, at least some, if not all, of the dependent claims are independently distinguishable over the cited references. For example, with respect to Claim 7, the Office Action asserts that it would have been obvious to modify the *Hornby* system by adding "an exhaust filter" to its outlet conduit.[21] As noted above, the *Hornby* reference opines that such

[21] *See* Office Action, at 7-8 (August 4, 2008).

dual-filter workstations are very expensive and proposes its alternative workstation—emphasizing its "simple" design that "uses only one filter" for both its enclosure and its outlet.[22] Thus, modifying the *Hornby* system as proposed by the Office Action would not make sense because the *Hornby* system filter 15 already provides filtering for its outlet conduit. Moreover, the *Hornby* reference teaches away from such a modification.

D. New Claims

New claims 13-22 have been added and are believed to be fully distinguished over the cited references. For example, because the Office Action equates grill 23 of *Hornby* with the "filter separating the plenum chamber from the main chamber," *Hornby* does not disclose or suggest the filter comprising a "HEPA filter" or an "air filter" as recited in claims 14, 15, 19, and 20. Furthermore, because the Office Action equates enclosure 11 (through which gas enters through grill 23 and exits out through separate channel 18) with the claimed "main chamber," *Hornby* does not disclose or suggest "wherein the main chamber is sealed closed except that gas can travel in and out of the main chamber through the filter separating the main chamber from the plenum chamber," as recited in claims 16 and 21.

Moreover, the cited references do not disclose "a first pump configured to pump one or more gases into the plenum chamber and then, via the filter, into the main chamber; and a second pump configured to, while the first pump pumps the one or more gases into the plenum and main chambers: maintain negative pressure in the main and plenum chambers; and cause sterilant vapor within the main chamber to flow from the main chamber into the plenum chamber via the filter and then flow out of the plenum chamber via an outlet of the plenum chamber," as recited in new independent claim 17.

Finally, the cited references do not disclose "by the first pump, pumping one or more gases into the plenum chamber and then, via the filter, into the main chamber; and by the second pump, maintaining, while the first pump pumps the one or more gases into the plenum and main chambers, negative pressure in the main and plenum chambers; and by the second pump, causing, while the first pump pumps the one or more gases into the plenum and main chambers,

[22] *See* U.S. Patent No. 4,249,463, at 1:53-56 ("It will be appreciated that this construction of workstation uses only one filter, but still ensures that there is inward flow at the access aperture and that the air expelled into the atmosphere is clean."); *id.* at 1:30-33 ("An object of the invention is to provide an improved workstation ... which is simple in construction.").

sterilant vapor within the main chamber to flow from the main chamber into the plenum chamber via the filter and then flow out of the plenum chamber via an outlet of the plenum chamber," as recited in new independent claim 22.

E. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, Applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, Applicant respectfully requests the Examiner's reconsideration and allowance of claims 1 and 3-22 as amended and presented herein.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 C.F.R. § 1.16; (2) any patent application and reexamination processing fees under 37 C.F.R. § 1.17; and/or (3) any post issuance fees under 37 C.F.R. § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

Dated this 5th day of January 2009.

Respectfully submitted,

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